

19. ●● **Combining conservation laws.** A 5.00 kg chunk of ice is sliding at 12.0 m/s on the floor of an ice-covered valley when it collides with and sticks to another 5.00 kg chunk of ice that is initially at rest. (See Figure 8.37.) Since the valley is icy, there is no friction. After the collision, how high above the valley floor will the combined chunks go? (*Hint:* Break this problem into two parts—the collision and the behavior after the collision—and apply the appropriate conservation law to each part.)